

Sub A 1 WHAT IS CLAIMED IS:

2 1. A method using an electronic circuit comprising:
3 combining a radio frequency (RF) signal, its reference signal, and a third signal which
4 has a predetermined frequency to provide a new signal, wherein the new signal's
5 frequency is solely responsive to the predetermined frequency of the third signal
6 and the new signal's phase is responsive to that of the RF signal.

7 2. A method as described in claim 1 further comprising:
8 generating the third signal using a crystal-stabilized oscillator.

9 3. A method as described in claim 1 further comprising
10 converting the RF signal and its reference signal to an intermediate frequency.

11 4. A method as described in claim 1 further comprising
12 converting the new signal to an signal selected from the group consisting of an audio,
13 video, digital and analog signal.

14 5. A method as described in claim 1 further comprising
15 transmitting the RF signal using an electronic conductor selected from the group
16 consisting of antenna and cable.

17 6. A method using an electronic circuit to convert a radio frequency (RF) signal comprising
18 combining the RF signal and another signal, which has a predetermined frequency, to
19 provide at least one output signal;
20 combining the output signal with the RF signal's reference signal to provide two new
21 output signals;
22 combining the two new output signals to provide a new signal whose frequency is
23 solely responsive to the predetermined frequency and whose phase is responsive
24 to that of the RF signal.

25 7. A method as described in claim 6 further comprising
26 generating the signal which has the predetermined frequency using a crystal-stabilized
27 oscillator.

1 18. An apparatus as described in claim 11 further comprising
2 a device for converting the new signal to an signal selected from the group consisting of
3 an audio, video, digital and analog signal.

4 19. An apparatus for converting a radio frequency (RF) signal and its reference signal
5 comprising
6 a signal source for providing a signal with a predetermined frequency;
7 a first multiplier for combining a signal responsive to the RF signal and another signal
8 responsive to the signal generated by the signal source, and providing at least one
9 output signal;
10 a second multiplier for combining a signal responsive to the reference signal and
11 another signal responsive to the output signal from the first multiplier, and
12 providing an output signal;
13 a first 90 degree phase shifter for receiving a signal responsive to the reference signal,
14 and generating an output signal;
15 a third multiplier for combining a signal responsive to the output signal from the first
16 multiplier and a signal responsive to the output signal from the first 90 degree
17 phase shifter, and providing an output signal;
18 a second 90 degree phase shifter for receiving a signal responsive to a signal selected
19 from the group consisting of the output signal from the second multiplier and the
20 output signal from the third multiplier, and providing an output signal; and
21 an adder for combining a signal responsive to the output signal from the second
22 multiplier and another signal responsive to the output signal from the third
23 multiplier, and providing a new signal.

24 20. An apparatus as described in claim 19 wherein
25 the signal source is a crystal-stabilized oscillator.

26 21. An apparatus as described in claim 19 further comprising
27 at least one power splitter.

28 22. An apparatus as described in claim 19 further comprising
29 at least one signal amplifier.

1
2 23. An apparatus as described in claim 19 further comprising
3 at least one automatic gaining circuit.

4 24. An apparatus as described in claim 19 further comprising
5 a device for converting the RF signal and its reference signal to an intermediate
6 frequency.

7 25. An apparatus as described in claim 19 further comprising
8 a device for converting the new signal to an signal selected from the group consisting of
9 an audio, video, digital and analog signal.

10 26. An apparatus for converting a radio frequency (RF) signal and its reference signal
11 comprising
12 a signal source for providing a signal with a predetermined frequency;
13 a first multiplier for combining a signal responsive to the RF signal and another signal
14 responsive to the signal generated by the signal source, and providing at least one
15 output signal;
16 a second multiplier for combining a signal responsive to the reference signal and
17 another signal responsive to the output signal from the first multiplier, and
18 providing an output signal;
19 a first 90 degree phase shifter for receiving a signal responsive to the output signal from
20 the first multiplier, and generating an output signal;
21 a third multiplier for combining a signal responsive to the reference signal and another
22 signal responsive to the output signal from the first 90 degree phase shifter, and
23 providing an output signal;
24 a second 90 degree phase shifter for receiving a signal responsive to a signal selected
25 from the group consisting of the output signal from the second multiplier and the
26 output signal from the third multiplier, and providing an output signal; and
27 an adder for combining a signal responsive to the output signal from the second
28 multiplier and another signal responsive to the output signal from the third
29 multiplier, and providing a new signal.

1 27. An apparatus as described in claim **26** wherein
2 the signal source is a crystal-stabilized oscillator.

3 28. An apparatus as described in claim **26** further comprising
4 at least one power splitter.

5 29. An apparatus as described in claim **26** further comprising
6 at least one signal amplifier.

7 30. An apparatus as described in claim **26** further comprising
8 at least one automatic gaining circuit.

9 31. An apparatus as described in claim **26** further comprising
10 an apparatus for converting the RF signal and its reference signal to an intermediate
11 frequency.

12 32. An apparatus as described in claim **26** further comprising
13 a device for converting the new signal to an signal selected from the group consisting of
14 an audio, video, digital and analog signal.

Add A1 >